Missouri Botanical Garden
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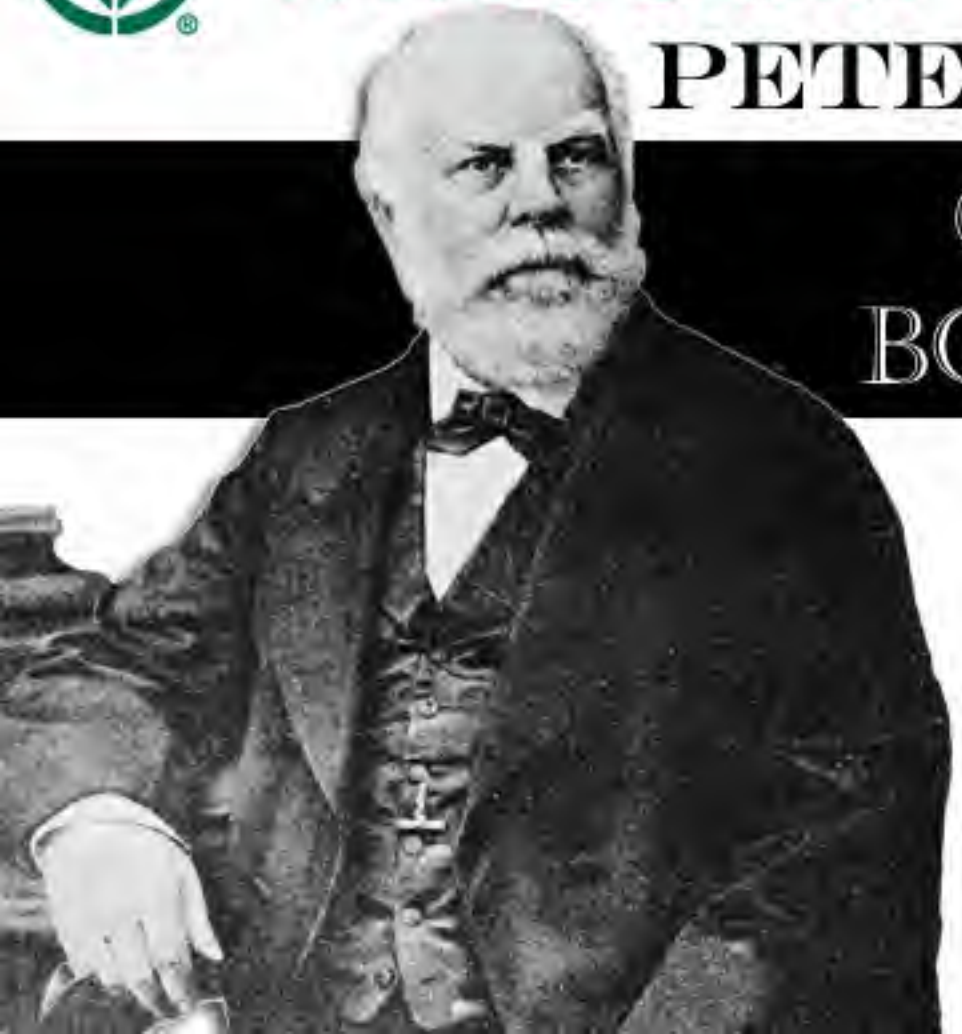
George Engelmann Botanical Notebooks



Pagination Note:
Since many of the items lack a specific page number, the page number displayed online refers to the sequentially created number each item was given upon cataloging the materials.

11 Feb

28

P. Jessiflora

4-42-45 m

0 1 2 3 4 5 6 7 8 9 10
cm
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EEHall

Pinus densiflora Sieb & Zuc: October 4th 1863

No. 182: red pericarp in Herb Bernhardi Hab Mixin

Smaller Amount

X4

m 0.020

X415

X10

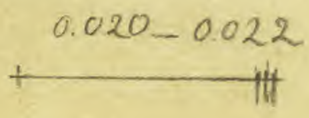
0.021

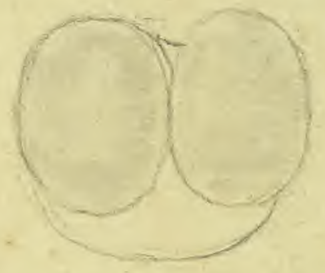
unripe Pollen grains such as this:

0.020

0.016

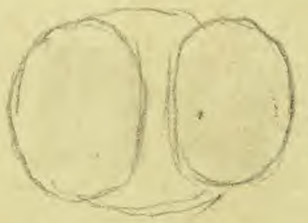
0.020 – 0.022





m 0.024

X415

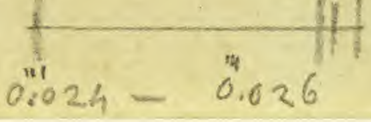


m 0.024

0.026

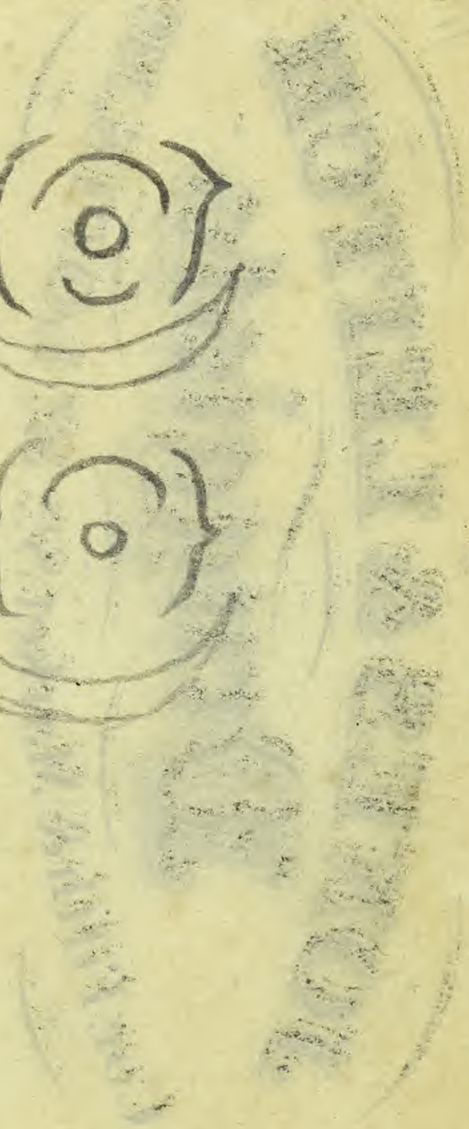
m 0.025

m m 0.024 – m 0.026



Larger Amount both in same paper, marked No 182

X10



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cm
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Druggists

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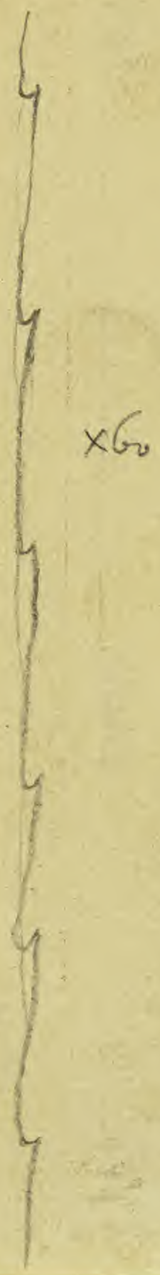
Piaus description
Japan, Obama

May 12 1879

x 30

Resinduct, peripheral
mostly below surround
by hypoderm cells — none
else, except a little in angles
and some within sheath,
below bundles of vessels

x 30



x60

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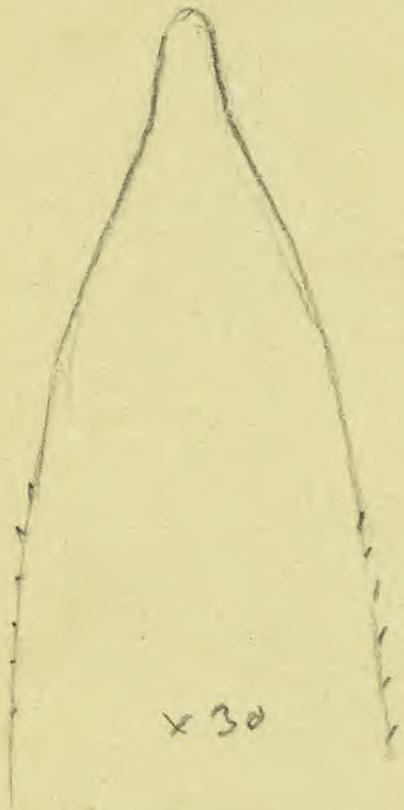
P. Jessoniana

"Pinus Massoniana" ? May 13 1879

coll. Hammond, Boston 1876

× 30

ducts peripheral!
surrounded by hypoderm
otherwise very little
hypoderm cells



× 30

× 60

peripheral
ducts seem
to indicate
another species

P. Massoniana
= similar,

from Kew Gardens
but with narrower
leaves.

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P. dentiflora Piaus "Matsudaeana" May 13 1879

or a hybrid of dentiflora & Japan. Albrecht 1. i 176. Petersburg

thunbergii ?

×30

dents irregular

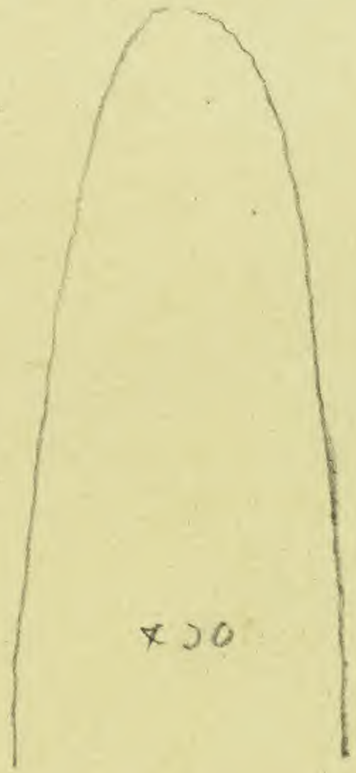
zone parenchymat

other cells peripheral

surrounded by hypoderm

otherwise very little

hypoderm visible



×30

reexamined Nov 14 1879

and found correct.

×60

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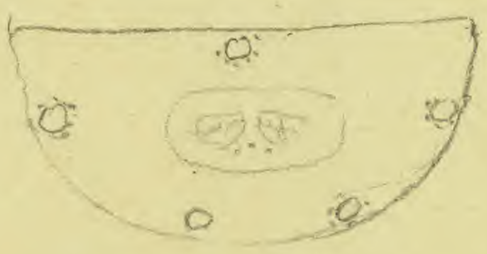
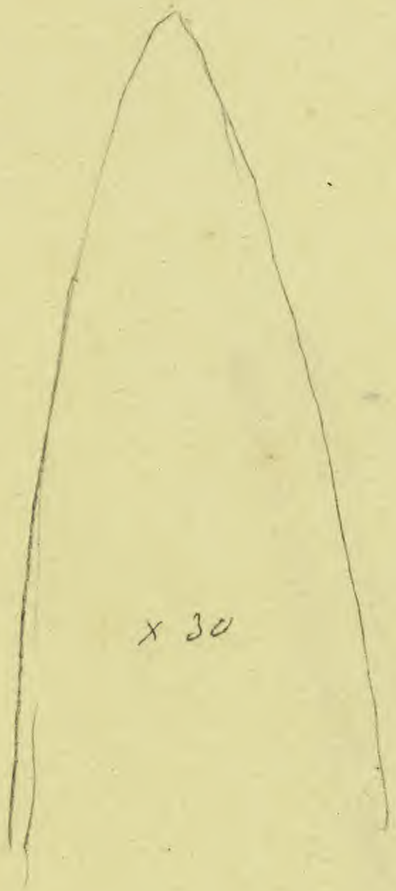
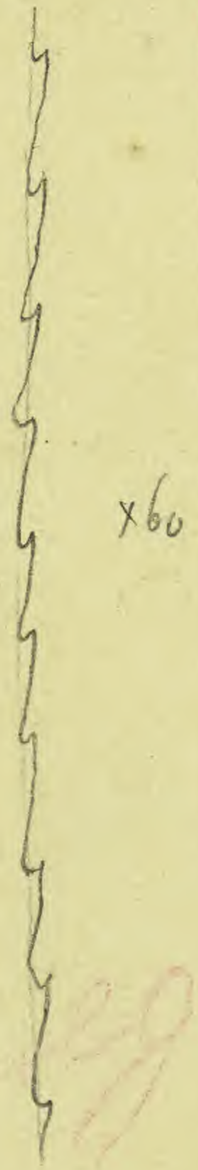
Pinus densiflora
Japan, ex hort Bernhard

May 17 1916



Outer peripheral
surrounded with hypoderm,
a few cells within sheath.





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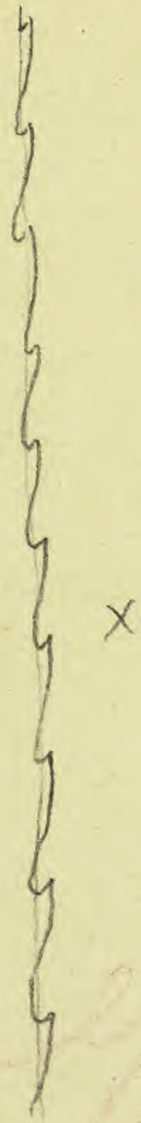
Diervilla sessilifolia May 17 1879

Japan, Maximowicz ÷ HG Cosson

×30

numerous peripheral
Facts surrounded by
hypoderm;
no other hypoderm cells
seen

×30



×60

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P. densiflora

Nov 13 1879

Nagasaki Japan Oldham

x 30

peripheral ducts
hypoderm cells sparing,
some in the corners
a few between ducts and
epidermis
some within sheath

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Pinus densiflora
Pelis sinensis Lamb
Japan Maximowicz ± Kk Bonin

Nov 13 1879

× 20

ducts numerous, peripheral,
one of their parenchymatous
no hypoderm cells at all, except
a few within sheath

Hort Kew. 1869 subcommissum

few and small ducts, peripheral
hypoderm sparing, in angles
and a few cells within sheath

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Pinus densiflora
sub nom. Massoniana

Nov. 13 1879

Hort Hammerville 1876

× 30

peripheral ducts
hypodermis very slight in
corners
and resin cells within sheath.

Hort Sargent 1879

no hypoderm cells visible
not even in sheath
Ducts 6-7 on lower side, periph.
very small

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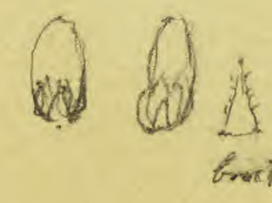
P. decus-florum, male flowers Nov 15 1879

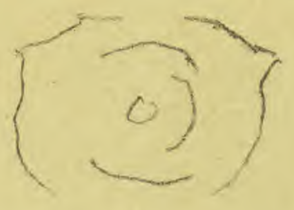
Japan

Oldham leg.



Fertile $\frac{26-29}{415}$ = 0.06–0.07 mm

bract a little longer than involucre



4 or 5 involucral bracts, all about equally long

Male inflorescence leg.

Size of Pollen

$\frac{29-31}{415}$ = 0.07–0.075 mm

6 involucral scales all about equally long

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Pinus densiflora

May 25 1880

sub nom P. Thunbergiana, Hort Sargent

Brookline

(fresh)

×4

bracts as long as following

4 or 5 involucral bracts of equal length

male spikes 1½–2 inches long & 4 mm thick.

I | II

29–30.5 / 515 — 0.070–0.076 mm

44–145 / 415 — 0.033–0.035 lin

×10

×2 scale

×4

female inflorescence

bracts as long as scale, broader

tip of scale protruding.

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DRUGGISTS & PHARMACISTS,

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cm 0 1 2 3 4 5 6 7 8 9 10
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Pinus (Sirensis) Mastoniana Nov 13 1879

Hongkong = Hobb. Kew

×36 Too large

Correct

small peripheral ducts
with a little hypoderm =
corners and around duct

×60

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JAMES McBRIDE,
Pharmaceutist,

NO. 280 FIFTH STREET, NEAR OFALLON,
SAINT LOUIS.

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Nov 13 1879

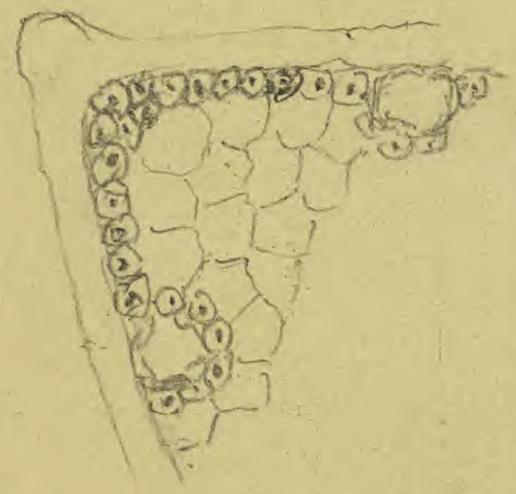
Pinus Massoniana

"Shansi" China, Meyen Hb. Berl.

× 30

Mesocarp very small peripheral ducts with 4 or 6 big ones in corners and on ducts none in sheath.

× 150



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dendrifloram

(Pinus "Massoniana")

Nov 14 1879

× 30

Nippon, Perfatti & Hb Mus Florent

Oct 1868

+60

numerous peripher. duct

hypoderm sparing; ± corners

little and some on

ducts

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Alex. Leitch,

APOTHECARY & CHEMIST,

Cor. 4th & Olive Sts., St. Louis.

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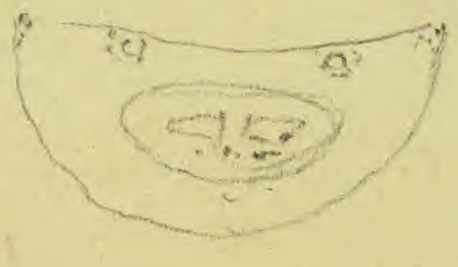
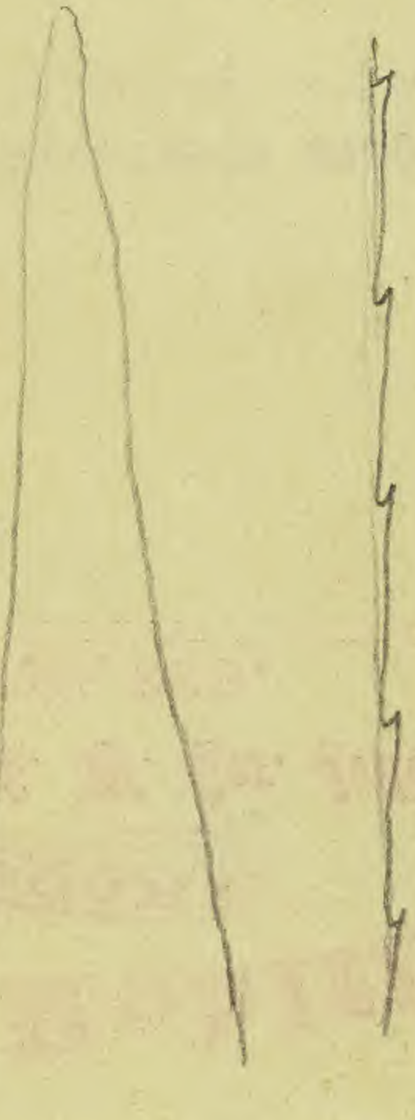
P. Massoniana

Nov 14 1879

China Staunton, in Hb Vienn

×30





×60

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cm
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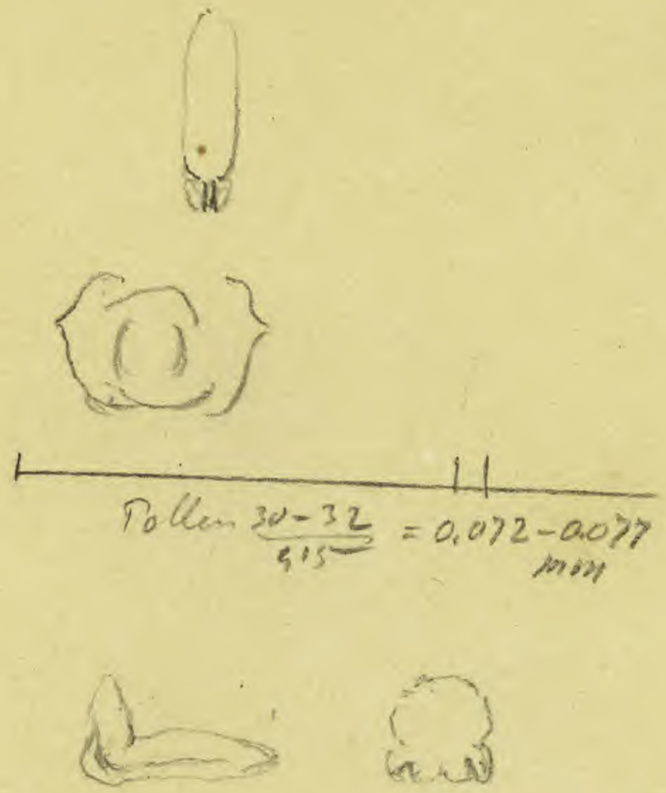
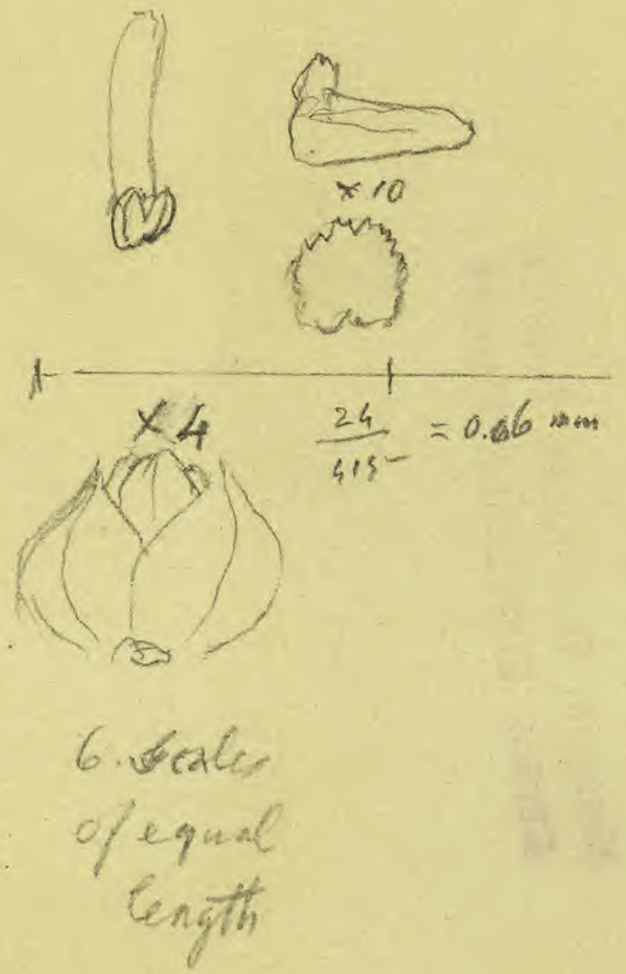
Pinus Massoniana

Nov 15 1879

Simoda, Wilson



Obtuse Linten



Chien Tate

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Pinus Massoniana

Nov 15 1879

Hongkong, Perfetti

flower buds

×10

×4

unrolled bud

Pollen not yet fully developed

6 or 7 involucral bracts the outer half as long as inner

bract longer than sheath

Hongkong, Champion

Pollen 2R-30

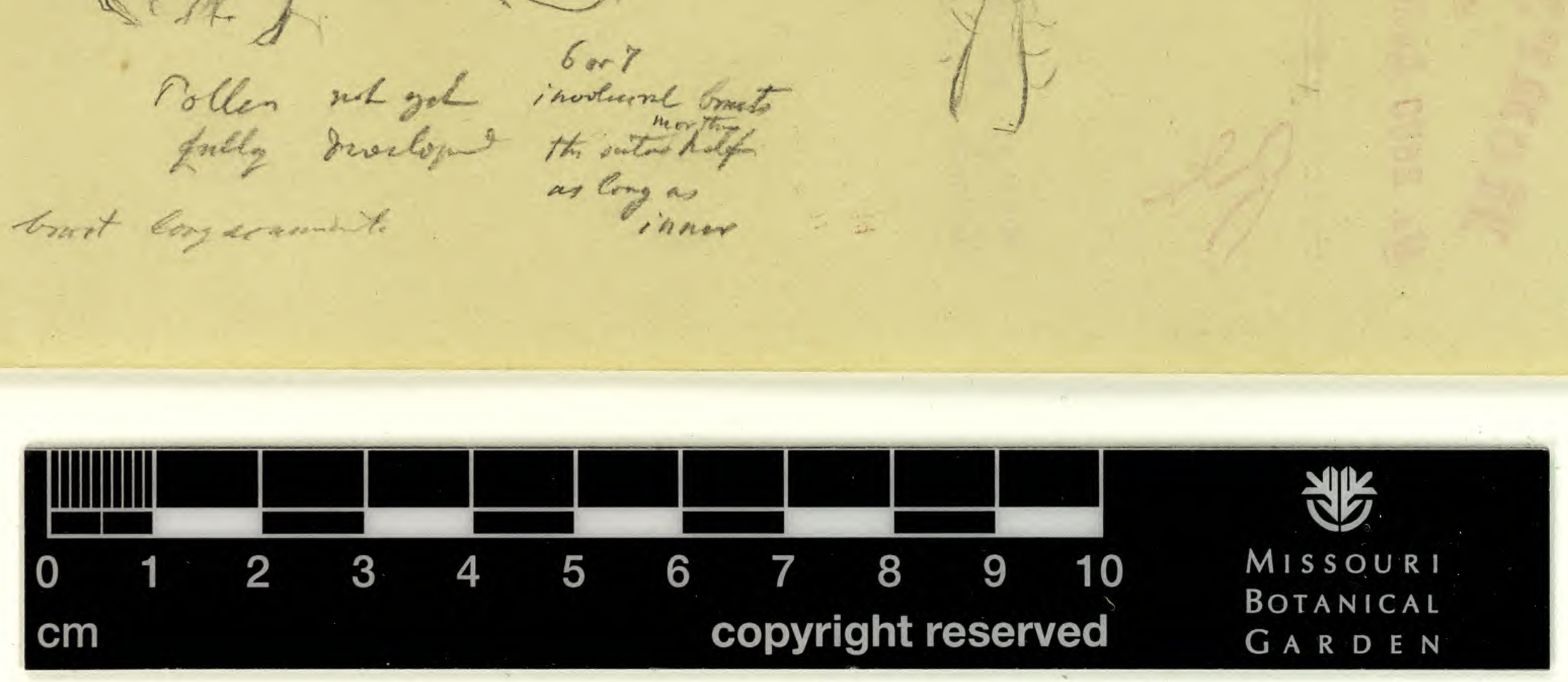
415

0.067 – 0.072 mm

×10

×4

either crest small entire



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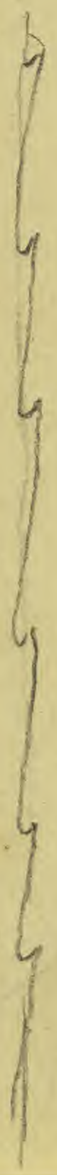
Madeira — "Pinus sinensis" May 12 1879

Hong Kong — #16 Kew

x 30

peripheral duct
especially on lower surface
surrounded by hypodermals
none in sheath. — On upper
side no or only indistinct
Ducts

x30



x60

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